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**ABSTRACT**

a<sup>1</sup>  
A mammalian cell having a mismatch repair-deficient phenotype is provided, where one or both alleles of a gene essential for mismatch repair, such as an *Msh* gene, are inactivated. Using this cell in a gene knock-out methodology advantageously allows efficient homologous recombination, even when the DNA sequences of the donor and recipient sequences diverge by significantly more than 0.6%.

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